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Ag 83**BANGLADESH'S AGRICULTURAL SITUATION****A BRIEF APPRAISAL**

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ABSTRACT

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Bangladesh is facing food scarcity as a result of civil war and armed conflict in 1971. The transportation network has been severely disrupted and large numbers of people have been dislocated from rural to urban areas. It appears that the only way to avoid serious pockets of hunger in Bangladesh in the short run is through imports of food-stuffs and improved distribution. Over 1.5 million tons of wheat and 900,000 tons of rice may be imported by Bangladesh in 1972. Self-sufficiency in grains is not expected in the long run because of limited land area, population increases, and the need for nutritional improvement.

Keywords: Bangladesh, Food scarcity, Production, Consumption, Imports.

INTRODUCTION

Bangladesh (formerly East Pakistan) ranks as one of the poorest and most deprived nations in the world with average per capita yearly income estimated at around \$75. Hunger and malnutrition, due to natural calamities and rapid population increases, are persistent problems. However, civil war and armed conflict in 1971 and lingering internal strife in 1972 have heightened the threat of food shortages this year. This paper comments on this threat and on prospects for solution--both short and long term.

WAR AFTERMATH

Bangladesh is facing multiple problems (7, p. 6)^{1/} affecting the food situation in the wake of the 1971 conflict. Pressing shortrun problems relate to marketing and

^{1/} Underscored numbers in parentheses refer to Bibliography, p. 8.

transportation difficulties caused by (1) damage to port facilities through which imported grain, needed to supplement domestic supplies, typically moves; (2) damage to the roads, bridges, and railroads which are used for internal distribution of food supplies; and (3) increased strain on the market system due to dislocation of people from rural to urban areas, so that a larger percentage of the population is dependent on food from urban markets rather than from subsistence agricultural production.

Major longer run problems of assuring adequate food supplies are (1) achieving rapid growth in food production and (2) securing the foreign exchange earnings needed for importing essential foodstuffs and agricultural inputs.

PRODUCTION AND CONSUMPTION

Increasing the per capita availability of food in Bangladesh would not be easy under "normal" conditions, for the population has been increasing at the rate of 2.7 percent annually and now totals an estimated 75 million. Natural calamities such as the severe drought in 1966 and the typhoon in November 1970, which seriously disrupted Bangladesh's food supply and economy, must be considered part of the normal course of events.

The apex of Bangladesh's food production was reached in 1969 (table 1) when rice output exceeded 18 million metric tons. This was followed by food production declines in both 1970 and 1971, primarily because of dropoffs in rice output. The typhoon in November 1970 cut rice output to 16.7 million metric tons for that year, and civil unrest, resulting in the abandonment of rice paddies as farmers fled to India, cut 1971 rice output to an estimated 15.2 million metric tons. Per capita food production in 1971 was estimated to be 16 percent below the 1961-65 average; most of the decline can be attributed to the shortfall in rice, since the output of numerous food crops showed a lesser decline or in some cases actually increased (table 2).

Table 1.--Indexes of total and per capita food production, Bangladesh, 1967-71

Year	Total food production	Per capita food production
<u>1961-65 = 100</u>		
1967	114	102
1968	115	101
1969	122	104
1970	114	94
1971 1/.....	102	84

1/ Preliminary.

Source: (8, p. 9).

Table 2.--Production of selected commodities, Bangladesh,
1961-65 average and 1968-71 annual

Commodity	1961-65 average	1968	1969	1970	1971 <u>1/</u>
<u>1,000 metric tons</u>					
Wheat.....	38	59	93	105	112
Rice, paddy.....	15,035	17,033	18,027	16,714	15,241
Corn.....	4	3	3	3	3
Barley.....	16	16	18	19	18
Pulses <u>2/</u>	203	244	293	296	286
Potatoes.....	353	712	799	864	818
Vegetables.....	1,245	1,589	1,704	1,682	1,540
Fruits.....	1,271	1,769	1,793	1,748	1,700
Sugarcane.....	5,022	7,711	7,414	7,537	7,720
Tobacco.....	28	40	41	42	40
Cotton.....	3	2	2	2	2
Jute.....	1,119	1,045	1,302	1,248	907
Cottonseed.....	6	4	4	4	4
Flaxseed.....	10	7	7	8	8
Rapeseed.....	98	122	130	128	128
Sesame seed.....	25	31	30	27	26
Tea.....	26	28	30	31	20
:					

1/ Preliminary.

2/ Including chickpeas.

Source: (8, p. 9) and Foreign Agricultural Service, USDA.

The return of the 10 million Bengali refugees from India during February-April 1972 occurred just at the ending of the winter rice harvest and before or during the summer rice harvest (fig. 1). The stock of rice on hand was relatively large, since nearly three-fifths of Bangladesh's 1970/71 rice harvest was from the winter crop (table 3). The large stock, in combination with the 2-week supply of rice given to refugees when they left India, overland shipments of grains to Bangladesh by India, and aid through the United Nations, provided "adequate" food supplies through the first half of 1972.

Table 3.--Rice production in Bangladesh, by crop, 1960/61 and 1970/71

Crop	1960/61		1970/71	
	<u>1,000 metric tons</u>		<u>Percent of total</u>	<u>1,000 metric tons</u>
	<u>1,000 metric tons</u>	<u>Percent of total</u>		
Aman	6,679	69.1	5,791	57.8
Boro	455	4.7	2,200	22.0
Aus	2,537	26.2	2,034	20.2
Total.....	9,671	100.0	10,025	100.0

Source: (5).

RICE TRANSPLANTING AND HARVESTING PERIODS IN BANGLADESH

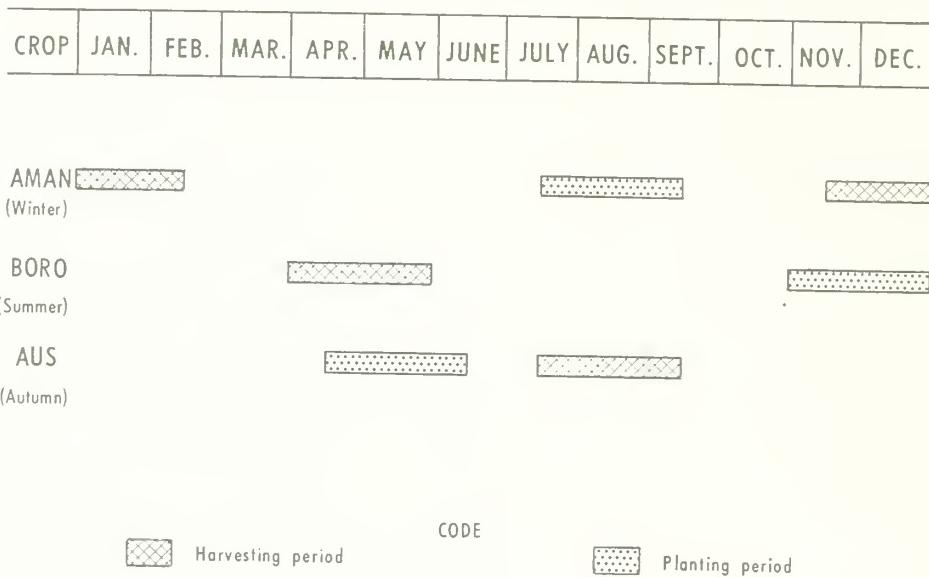


Figure 1

The Food and Agriculture Organization estimated average daily caloric intake in Pakistan during 1964-65 at 1,995 (3). ^{2/} The Bengali diet improved in the late 1960's but remained inadequate in terms of protein and fats. Rice constitutes over two-thirds of the food consumed in Bangladesh, and wheat only 8 percent.

Bangladesh annually imports substantial quantities of grains and vegetable oils to supplement its own food production. Grain imports have varied from year to year but they increased substantially in 1970 and 1971, when combined rice and wheat imports approximated 1.4 million tons annually. During the last decade, most of East Pakistan's grain imports were arranged by government officials in West Pakistan. The major source of wheat imports was the United States because of the availability of P.L. 480 financing. West Pakistan was the major source of rice imports, supplying an average of 245,000 tons annually between 1965 and 1971. Because of the termination of trade between these two countries in late 1971, rice must be obtained from other suppliers, produced domestically, or replaced by other grains. West Pakistan also shipped 155,000 tons of wheat to East Pakistan in 1969 and 8,000 tons in 1971.

Fair-price shops have been set up in most villages in Bangladesh since the end of the war to distribute wheat, rice, vegetable oils, and other imported items to ration card holders. The imported foods are distributed through the Bangladesh Food Corporation, which provides supplies for fair-price shops.

^{2/} Fast Pakistan and West Pakistan combined.

SHORTRUN SITUATION

The only way to avoid serious pockets of hunger in Bangladesh in the short run is through imports of foodstuffs and improved distribution. With limited port facilities and severe disruption of road and rail facilities, distribution will be a problem.

The Soviet Union has engaged in salvage operations at Chittagong where some 30 vessels were sunk and several jetties and mooring needed repairing. Some salvage operations, originally estimated to require 4-6 months, are expected to take much longer, perhaps a year. Some use can be made of the port of Chittagong during salvage operations (1, p. 27).

Extensive salvage operations are also anticipated at Chalna, Bangladesh's major export port. The magnitude of the salvage operation at both ports points to the likelihood that Bangladesh officials will seek United Nations aid to expedite the operation. Dislocation of rail lines between Chittagong and Dacca has hindered the transportation of commodities between these important areas (1, p. 27).

The United States plans to continue using the tanker Manhattan as a floating grain silo off the coast of Bangladesh in an attempt to circumvent the crowded Chittagong port and speed up distribution of food to the interior. The grain is unloaded into the Manhattan from oceangoing vessels and reloaded onto smaller vessels which can carry the food inland by rivers and canals (4). However, remote areas might still need emergency supplies by airlift. The United States is providing Bangladesh with helicopters for this distribution.

Bangladesh's domestic food output in 1972 should improve slightly over last year. With favorable weather and an increase in the use of fertilizer, irrigation pumps, and high-yielding seeds during the aman crop, Bangladesh's milled rice harvest is expected to approximate 11.3 million tons, despite reduced output from the boro and aus crops. This output would exceed 1971 and 1970 output--10.0 and 11.2 million tons respectively--but would still be well below the record crop of 12.1 million tons in 1969. Wheat output, although still relatively small, is estimated to continue the up-trend in production generally evidenced since 1966. The production of pulses, a major protein component in the diet, is expected to rise slightly this year. Production of both fruit and vegetables should significantly exceed the reduced 1971 crop.

Bangladesh will become a major fertilizer importer in 1972. Japan has donated 170,000 tons of urea. India has already delivered 40,000 tons of fertilizer. Part of the \$90 million grant by the United States will be used to finance fertilizer imports (see below).

An estimated one-quarter to one-third (20-25 million) of the population is now supported by government-distributed grains due to the dislocation of people from rural to urban areas. Also, because of population increases and the return of refugees from India, Bangladesh's current population is estimated at 75 million compared with an estimated average of 66 million in 1970. Thus, substantial increases in food supplies are required from last year's levels just to maintain per capita average caloric intake.

Indications as of mid-August were that Bangladesh will import approximately 0.9 million tons of rice and 1.6 million tons of wheat in 1972. Actual rice and wheat imports in the first half of 1972 are shown in table 4. India's total deliveries of grain in 1972 are expected to approximate 650,000 tons of wheat and 150,000 tons of rice. The European Community will provide 128,000 tons of wheat in 1972.

The United States donated \$90 million to Bangladesh on May 30, 1972, for financing imports and for economic development. These funds are in addition to the \$76 million worth of food we have already provided Bangladesh through the United Nations. The

United States has already provided 500,000 tons of wheat, 172,000 tons of rice, and 50,000 tons of vegetable oils to Bangladesh this year. Recent cash donations by other nations, as well as the United States, have provided Bangladesh with over \$100 million to finance imports in 1972. Some of these donations were recently used to purchase 50,000 tons of rice in Thailand. West European nations have donated considerable supplies of dairy products and processed foods.

Table 4.--Bangladesh's wheat and rice imports, January 1-June 30, 1972 1/

Supplier	Wheat	Rice
<u>1,000 metric tons</u>		
United States	350	150
India	400	100
Burma	--	80
Japan	--	50
European Community	40	10
USSR	--	--
Canada	30	--
Australia	25	--
Total	845	390

1/ Part of the wheat and rice was supplied through the United Nations.

LONGRUN SITUATION

Grain import requirements are expected to decline slightly from 1972 levels in 1973 or 1974. The number of people supported by government-distributed grains should fall to lower levels as the economy improves. However, because of the limited land area, population increases, and the need for nutritional improvement, grain imports might again rise substantially above 1972 levels during the last part of this decade.

About 7 percent of total rice acreage was planted in high-yield varieties (HYV's) in 1971 (table 5), so there is room for expansion of high-yielding crops. Historically, however, rainfall has been relied upon to water over three-fourths of the cultivated land, and expansion of irrigation is costly and time consuming. In addition, fertilizer and pesticides must be used in conjunction with irrigation if HYV's are to be effective. Both are costly and must be largely acquired through imports. Temperatures in Bangladesh do permit year-round crop production. Good results have been obtained from one high-yield variety, IR-20, during the winter, but some fields of another variety, IR-8, were destroyed by the tungro virus during hot monsoon weather in the late 1960's.

One of the complicating aspects of expanding use of high-yielding seeds is the structure of Bangladesh's agriculture. Subsistence agriculture is still the basis of

its rural society and agriculture remains traditional and static. Farming is carried on mostly by illiterate farmers on over 6 million farms with an average size of less than 1.5 hectares. The spreading of agricultural technology to the many farmers is not only complicated by illiteracy and inadequate credit but also by a poor communications network and by a meager extension service.

Table 5.--Rice and wheat acreage in Bangladesh and percent planted in high-yielding varieties, selected years

Crop year	Total	Area in HYV's	HYV's as percent of total
	<u>1,000 acres</u>		<u>Percent</u>
Rice:			
1966/67	22,414	1	0.0
1967/68	24,437	166	0.7
1968/69	24,073	382	1.6
1969/70	25,486	652	2.6
1970/71	24,494	1,137	4.6
1971/72 <u>1/</u>	25,200	1,800	7.1
Wheat:			
1968/69	290	20	6.9
1969/70	296	22	7.4
1970/71	311	24	7.7
1971/72 <u>1/</u>	320	35	10.9

1/ Preliminary estimate.

Source: (3).

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NEWS

U. S. DEPARTMENT OF AGRICULTURE

SHORT RUN FOOD SHORTAGE SEEN CRITICAL IN BANGLADESH:

WASHINGTON, Oct. 17--The newly-emerged nation of Bangladesh could be threatened with a severe food shortage this year despite international relief efforts, according to a report issued today by the U.S. Department of Agriculture's Economic Research Service.

In the wake of the 1971 war with Pakistan and lingering internal strife, Bangladesh is facing multiple short-run and long-run problems. In addition, the food situation in Bangladesh will be tight until November -- the beginning of the major rice harvest.

Bangladesh ranks as one of the poorest nations of the world, with a per capita income estimated at around \$75 annually. Natural calamities and a rapidly rising population normally make hunger and malnutrition persistent problems.

During the conflict, there was damage to port facilities through which imported grain normally moves; damage to the transportation network essential to effective food distribution; and dislocation of people from rural to urban areas, making a larger percentage of the population dependent on food from urban markets.

Also, due in part to the return of refugees from India, Bangladesh's current population is estimated at 75 million, compared with an estimated average of 66 million in 1970. Thus, substantial increases in food supplies are required from last year's levels just to maintain per capita average caloric intake.

With the establishment of a stable government, the situation is expected to improve by 1973 or 1974. Meanwhile, the U.S. has donated \$90 million to Bangladesh for financing imports and for economic development, in addition to \$76 million worth of food we have already provided Bangladesh through the United Nations.

A copy of "Bangladesh's Agricultural Situation--A Brief Appraisal," ERS-F-344, is available free on postcard (please include zipcode) or telephone (447-7255) request from the Division of Information, Office of Management Services, U.S. Department of Agriculture, Washington, D.C. 20250.

